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OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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13 June 2005

OPNAV NOTICE 4700

From: Chief of Naval Operations

Subj: REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES OF U.S. NAVY SHIPS

Ref: (a) OPNAVINST 4700.7K
(b) OPNAVINST 3120.33B
(c) OPNAVINST 4780.6D
(d) NAVSEA ltr ser 05D/032 of 7 May 03 (Surface Ship Docking Interval) (NOTAL)

Encl: (1) Representative Intervals, Durations, Maintenance Cycles and Repair Mandays for Depot Level Maintenance Availabilities
(2) List of Ship Class Maintenance Requirement (SCMR) Man-hours
(3) List of Maintenance Terms and Definitions

1. Purpose

a. To issue depot level availability representative intervals, durations, maintenance cycles, and repair mandays for all ships of the U.S. Navy, except those ships assigned to the Military Sealift Command and the Naval Special Warfare Command.

b. To provide a detailed description of availability types and current maintenance terms.

2. Cancellation. OPNAVNOTE 4700 Ser N431H/3U573940 of 30 June 04.

3. Background. Reference (a), Maintenance Policy for Naval Ships, establishes the policies and responsibilities for planning, programming, budgeting, scheduling, performing, and evaluating maintenance of ships. References (b), Submarine Extended Operating Cycle (SEOC) Program, and (c), Procedures for Administering Service Craft and Boats in the U.S. Navy, issue the depot level maintenance requirements for nuclear ship and non-nuclear service craft, respectively. This notice does the following:

a. Establishes representative intervals, durations, and repair mandays for depot level maintenance availabilities of U.S. Navy ships. Maintenance cycles are derived from the combination of representative intervals and durations.

b. Changes in this notice include:

(1) Changes in durations, intervals, maintenance cycles, and notional mandays were made for the following ship classes:

SSN 21
SSN 23
SSN 688
SSN 774

(2) PR-07 Intermediate Ship Class Maintenance Manday (SCMR) requirements are included as Enclosure (2).

4. Policy. Chief of Naval Operations (CNO) requirements for the accomplishment of ship and submarine maintenance are contained in references (a) through (c).

5. Definitions and Procedures.

a. Maintenance cycle is defined as the period of time that starts after the completion of a ship's overhaul (or docking availability, when no overhaul availabilities are included in the maintenance plan) and ends after completion of the next overhaul or docking availability. For new construction or conversion ships, the maintenance cycle starts after completion of the post shakedown availability or as defined in the ship's class maintenance plan.

b. Interval is defined as the period from the completion of the prior scheduled depot availability to the start of the next scheduled depot availability.

c. Duration is defined as the period from the start of the availability to its completion.

d. Continuous Maintenance (CM) is defined as scheduled depot level maintenance conducted outside of CNO availabilities. Continuous Maintenance for surface ships includes average unfunded technical requirements by ship class spread over a 4-year period.

e. Repair mandays are those Type Commander maintenance mandays typically accomplished by the executing activity to satisfactorily complete the type of availability indicated. Repair mandays include Fleet alteration mandays normally accomplished during the availability. Repair mandays do not include mandays from concurrent intermediate level maintenance availabilities.

(1) Submarine repair notional mandays are derived from the Class Maintenance Plan (CMP) and repair estimates that are reviewed and analyzed by Submarine Team One.

(2) Surface ship repair notional mandays are derived from the CMP and the Maintenance Resource System (MRS). During POM-06, Commander Naval Surface Forces developed and implemented new work package development guidelines expected to reduce surface ship maintenance cost by reducing late work identification and the associated cost premium. PR-07 MRS derived CNO availability and CM notionals have been reduced by 9% based on POM-06 mitigation estimates of the maintenance cost savings. The percentage of reduction will be changed to 6% for POM-08 and 3% for PR-09 as reduced maintenance costs are reflected in the MRS database.

(3) Aircraft carrier repair notional mandays are derived from Aircraft Carrier Continuous Maintenance Program (ACCMP) for ships under the Engineered Operating Cycle (EOC) or Incremental Maintenance Program (IMP), as applicable, and repair estimates that are reviewed and analyzed by Carrier Team One.

(4) Scheduled duration of specific depot availabilities may be adjusted to accommodate necessary maintenance, modernization, and depot loading. The notional durations specified in enclosure (1) provide the best estimates for long range planning in the absence of any specific information. Scheduled CNO availabilities for ships preparing for or returning from Forward Deployed Naval Forces homeport assignment shall have adjusted notional mandays based on historic cost returns for those vessels. Availabilities will not be scheduled in the year prior to decommissioning unless a subsequent deployment is planned. Availability scope will be limited to the mandatory maintenance needed to support the planned deployment.

(5) The mandays specified in enclosure (1) represent the notional or "typical" mandays required by an executing activity and provide the most accurate basis for planning and programming purposes in the absence of specific information related to a

specific availability. Changes to the notional mandays may be required based on actual ship material condition, actual shipyard estimates, or for additional services associated with extended duration availabilities. Manday estimates that exceed or reduce the notional for specific ship availabilities will not be incorporated into the Fleet Modernization Program Management Information System (FMPMIS) database until technical justification is reviewed and approved by CNO and Commander, Naval Sea Systems Command (COMNAVSEASYSCOM).

(6) Deviation from the notional surface ship and aircraft carrier depot availability interval to accommodate changes in a ship's employment schedule or to facilitate depot work loading is authorized as follows:

Period from start of maintenance cycle to start of availability	Allowable Deviation
0-36 months	± 3 months
37-48 months	± 4 months
49-60 months	± 5 months
61-72 months	± 6 months
Greater than 72 months	± 7 months

(a) Allowable deviations for submarine depot availabilities are specified in reference (b).

f. In accordance with reference (a), all depot availability schedule changes shall be coordinated among cognizant Type Commanders (TYCOMs), Fleet Commanders (FLTCOMs), COMNAVSEASYSCOM (SEA-04 and applicable Program Executive Office (PEO), and SEA-08 for nuclear-powered ships or ships with nuclear support facilities) and CNO (N43).

g. Revisions to notional durations, maintenance cycles, intervals, and mandays shall be processed as follows:

(1) OPNAVNOTE 4700 is issued annually to support budget submission. Inputs for OPNAVNOTE 4700 revision may be submitted at any time but must be received complete with supporting documentation and concurrences not later than 30 January 2006 to be incorporated into POM-08.

(2) Any activity may submit recommended revisions to COMNAVSEASYSCOM (SEA-04, applicable PEO, and SEA-08 for nuclear-powered ships or ships with nuclear support facilities) with an information copy to the Fleets and CNO (N431).

(3) COMNAVSEASYSCOM (SEA-04, applicable PEO, and SEA-08 for nuclear-powered ships or ships with nuclear support facilities) coordinates review of justification and endorses recommendations with rationale for approval or disapproval.

(4) When applicable, the coordination may be accomplished by inter-agency organizations such as Submarine Team One or Carrier Team One.

(5) CNO N43 reviews and approves revisions and updates OPNAVNOTE 4700, which is then provided to TYCOMs, FLTCOMs and COMNAVSEASYSCOM for review. This review is intended to verify the accuracy of changes entered since the previous OPNAVNOTE 4700.

5. Action. TYCOMs, FLTCOMs, COMNAVSEASYSCOM, and CNO sponsors are to implement the above guidance in conjunction with the detailed policy provided in references (a) through (d).

6. Cancellation Contingency. Upon issuance of next notice.

J.A. Robb
Rear Admiral
Director, Fleet
Readiness Division

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REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	SHIP TIME LINE NUMBERS INDICATE MONTHS
AFDL 1	ROH	SCO	3	72	75	13.6	SCO| -----| SCO| 0 72 75
AFDM CL	ROH	SCO	6	72	78	36.4	SCO| -----| SCO| 0 72 78
AFDM 7	PM	DCM	12		12	6.8	| DCM| 0 12
AGF 11	PM	DPMA PMA CM	5 3	89 15	94	31.9 14.1 3.0	DPMA| -----| PMA| -----| PMA| -----| PMA| 0 15 18 33 36 51 56 -----| PMA| -----| PMA| 71 74 89 94
AGSS 555	PM	DPMA1 DPMA2	6 8	42 42	72	UNIQUE	DPMA1 -----| DPMA2| -----| DPMA1| -----| DPMA2| 0 18 26 42 48 66 72
ARDM CL	ROH	SCO	6	72	78	40.0	SCO| -----| SCO| 0 72 78
ARS 50 CL	PM	DPMA PMA CM	2 2	94 22	96	6.9 4.7 1.1	DPMA| -----| PMA| -----| PMA| -----| PMA| 0 22 24 46 48 70 72 -----| DPMA| 94 96
ARS 50 CL (FDNF)	PM	DSRA SRA CM	2 2	83 15	85	6.1 3.6 2.1	DSRA| ----| SRA| ----| SRA| ----| SRA| 0 15 17 32 34 49 51 ----| SRA| ----| DSRA| 66 68 83 85
AS 39	PM	DPMA PMA	4 3	96 30	100	34.9 16.4	DPMA| ----| PMA| ----| PMA| ----| DPMA| 0 30 33 63 66 96 100

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SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
CG 47 CL NOTES 1 & 13	PROG	DMP EDSRA DSRA ESRA SRA CM	12 8 2 4.5 2	N/A N/A 106 N/A 25	N/A	50.0 UNIQUE 28.6 UNIQUE 8.0 2.2	DSRA| -----| SRA| -----| SRA| -----| SRA| 0 25 27 52 54 79 81 -----| DSRA| -----| SRA| -----| SRA| -----| 106 108 133 135 160 162 187 SRA| -----| DMP| 189 216 228
CG-47 CL (FDNF)	PROG	DSRA SRA CM	2 2	83 15	85	10.0 6.5 3.2	DSRA| ----| SRA| ----| SRA| ----| SRA| 0 15 17 32 34 49 51 ----| SRA| ----| DSRA| 66 68 83 85
CV 63 (FDNF) NOTE 2	PROG	IDSRA ISRA	5 4	57 8	61	129.3 90.0	IDSRA| -----| ISRA| -----| ISRA| -----| ISRA| 0 8 12 20 24 32 36 -----| ISRA| -----| IDSRA| 44 48 56 61
CVN 65 NOTES 3 & 15	EOC	ESRA1 ESRA2 ESRA3 EDSRA1 EDSRA2 EDSRA3	6 6 6 10.5 10.5 10.5	18 21 21 66 67.5 67	81	190.2 226.3 261.3 401.2 401.2 462.8	PSA| ----| ESRA1| ----| EDSRA1| 0 18 24 42 52.5 ----| ESRA2| ----| ESRA2| ----| EDSRA2| 70.5 76.5 97.5 103.5 120 130.5 -----| ESRA3| ----| INACT 153 159.5 178.5

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CVN 68 CL NOTES 4 & 15	IMP	RCOH DPIA1 DPIA2 DPIA3 PIA1 PIA2 PIA3 PSA-SRA	36 10.5 10.5 10.5 6 6 6 4	 70.5 70.5 70.5 21 21 21	81	3200 255.8 308.9 356.6 146.2 173.8 201.4 71.0	PSA-SRA| -----| PIA1| -----| PIA1| -----| DPIA1| 0 21 27 48 54 70.5 81 ---| PIA2| ----| PIA2| ----| DPIA2| ----| 102 108 129 135 151.5 162 183 PIA3| ----| PIA3| ----| DPIA3| ----| PIA3| 189 210 216 232.5 243 264 270 -----| RCOH| ------| PSA-SRA| -----| PIA2| ----| 295 0 4 8 29 35 56 PIA2| ----| DPIA2| ----| PIA3| ----| PIA3| 62 78.5 89 110 116 137 143 ----| DPIA3| ----| PIA3| ----| PIA3| ----| 159.5 170 191 197 218 224 240.5 DPIA3| ----| PIA3| ----| INACT 251 272 278 303.5
DDG 51 & DDX CL NOTE 1	PROG	DSRA SRA CM	2 2	106 25	108	19.8 6.5 1.5	DSRA| -----| SRA| -----| SRA| -----| SRA| 0 25 27 52 54 79 81 -----| DSRA| 106 108
DDG 51 & DDX CL (FNDF)	PROG	DSRA SRA CM	2 2	83 15	85	12.0 5.5 3.0	DSRA| ----| SRA| ----| SRA| ----| SRA| 0 15 17 32 34 49 51 ----| SRA| ----| DSRA| 66 68 83 85

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SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
FFG 7 CL NOTE 14	PROG	DSRA SRA CM	2 2	94 22	96	16.9 8.1 1.3	DSRA| 0 -----| 94 ----| 22 DSRA| 96 SRA| 24 -----| 46 SRA| 48 -----| 70 SRA| 72
FFG 7 CL (FDNF)	PROG	DSRA SRA CM	2 2	83 15	85	13.2 7.0 2.7	DSRA| 0 ----| 66 ----| 15 SRA| 68 SRA| 17 ----| 83 ----| 32 DSRA| 85 SRA| 34 ----| 49 SRA| 51
LCC 20	PM	DSRA SRA ISRA CM	4 2 2	80 22 22	84	28.5 8.6 5.0 3.0	DSRA| 0 -----| 46 DSRA| 84 -----| 10 SRA| 48 ISRA| 12 -----| 58 ISRA| 22 -----| 60 SRA| 24 -----| 70 SRA| 34 -----| 72 ISRA| 36 -----| 80
LCC 19 (FDNF)	PROG	DSRA SRA CM	3 2	82 4	85	28.5 6.7 3.0	DSRA| 0 ----| 22 SRA| 42 ----| 64 DSRA| 85 ----| 4 SRA| 24 ----| 46 SRA| 66 SRA| 6 -----| 28 SRA| 48 -----| 70 SRA| 10 -----| 30 SRA| 52 -----| 72 SRA| 12 -----| 34 SRA| 54 -----| 76 SRA| 16 -----| 36 SRA| 58 -----| 78 SRA| 18 -----| 40 SRA| 60 -----| 82

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SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
LCS 1	PROG	DSRA SRA CM	2 2	106 25	108	9.9 3.2 .7	DSRA| -----| SRA| -----| SRA| -----| SRA| 0 25 27 52 54 79 81 -----| DSRA| 106 108
LCS 1 (FDNF)	PROG	DSRA SRA CM	2 2	66 15	68	7.0 3.3 .7	DSRA| -----| SRA| -----| SRA| -----| SRA| 0 15 17 32 34 49 51 -----| DSRA| 66 68
LHA 1 CL Note 5 NOTE 1	PM	DPMA PMA CM	6 2	129 25	135	127.8 43.1 10.2	DPMA| ----| PMA| -----| PMA| -----| PMA| 0 25 27 52 54 79 81 ----| PMA| ----| DPMA| 106 108 129 135
LHD 1 CL Note 5 NOTE 1	CM	DPMA PMA CM	6 2	129 25	133	88.3 40.5 6.9	DPMA| ----| PMA| -----| PMA| -----| PMA| 0 25 27 52 54 79 81 ----| PMA| ----| DPMA| 106 108 129 135
LHD 1 CL (FDNF) NOTE 1	PROG	DSRA SRA CM	5 3	139 15	144	76.4 36.5 11.0	DSRA| ----| SRA| -----| SRA| -----| SRA| 0 15 18 33 36 51 54 ----| SRA| -----| SRA| -----| SRA| -----| 69 74 89 92 107 110 125 SRA| ----| DSRA 128 139 144

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SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
LPD 17 CL	PM	DPMA PMA CM	4 2	131 25	135	26.3 12.3 1.0	DPMA| 0 ----| 106 ----| 25 PMA 108 -----| 27 PMA 131 -----| 52 DPMA 135 -----| 54 PMA| 79 -----| 81 PMA
LPD 17 CL (FDNF)	PROG	DSRA SRA CM	4 2	117 15	121	22.8 11.9 1.0	DSRA| 0 ----| 66 DSRA 121 ----| 15 SRA 68 | ----| 17 SRA 83 ----| 32 SRA 85 ----| 34 SRA 100 -----| 49 SRA 102 -----| 51 SRA 117
LPD 4 CL NOTE 1	PM	DPMA PMA CM	4 3	106 25	110	40.2 28.6 6.5	DPMA| 0 -----| 106 -----| 24 DPMA| 110 -----| 27 PMA| 51 -----| 54 PMA| 78 -----| 81 PMA|
LPD 4 CL (FDNF)	PROG	DSRA SRA CM	4 2	83 15	87	31.0 22.0 10.5	DSRA| 0 ----| 66 ----| 15 SRA 68 ----| 17 SRA 83 -----| 32 DSRA 87 -----| 34 SRA| 49 -----| 51 SRA
LSD 41 CL NOTE 1	PM	DPMA PMA CM	4 2	106 25	110	30.0 22.6 3.9	DPMA| 0 -----| 106 -----| 25 DPMA| 110 -----| 27 PMA| 52 -----| 54 PMA| 79 -----| 81 PMA|
LSD 41 CL (FDNF)	PROG	DSRA SRA CM	4 2	83 15	87	20.9 17.1 7.0	DSRA| 0 ----| 66 ----| 15 SRA 68 ----| 17 SRA 83 -----| 32 DSRA 87 -----| 34 SRA| 49 -----| 51 SRA

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LSD 49 CL NOTE 1	PM	DPMA PMA CM	4 2	106 25	110	30.0 22.6 3.9	DPMA| -----| PMA| -----| PMA| -----| PMA| 0 25 27 52 54 79 81 -----| DPMA| 106 110
LSD 49 CL (FNDF)	PROG	DSRA SRA CM	4 2	83 15	87	20.9 17.1 7.0	DSRA| ----| SRA| -----| SRA| -----| SRA 0 15 17 32 34 49 51 ----| SRA ----| DSRA 66 68 83 87
MCM 1 CL	PM	DPMA PMA CM	2 2	70 22	72	8.6 5.4 .2	DPMA| ----| PMA| -----| PMA| ----| DPMA| 0 22 24 46 48 70 72
MCM 1 CL (FDNF) NOTE 6	PROG	DSRA ISRA CM	2 2	70 13	72	8.1 4.2 .4	DSRA| ----| ISRA| ----| ISRA| ----| ISRA| 0 13 15 28 30 43 45 ----| ISRA| ----| DISRA| 58 60 70 72
MHC 51 CL	PM	DPMA PMA CM	2 2	70 22	72	5.1 3.3 .2	DPMA| ----| PMA| -----| PMA| ----| DPMA| 0 22 24 46 48 70 72
MHC 51 CL (FNDF) NOTE 6	PM	DSRA ISRA CM	2 2	70 11	72	7.3 2.2 .2	DSRA| ----| ISRA| ----| ISRA| ----| ISRA| 0 13 15 28 30 43 45 ----| ISRA| ----| DISRA| 58 60 70 72
MTS 626 & 635	EOC	DEMA PEMA	7 2	113 41/47	120	68.0 17.0	DEMA| ----| PEMA| ----| PEMA| ----| DEMA| 0 41 43 90 92 113 120

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SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
NR-1	PROG	DSRA1 DSRA2	2 3	22.5 22.5	220	12.0 20.0	ROH| -----| DSRA1| -----| DSRA1| -----| DSRA1| 0 22.5 24.5 47 49 71.5 73.5 -----| DSRA1| -----| DSRA2| -----| DSRA1| -----| 96 99 121.5 123.5 146 148 170.5 DSRA1| -----| DSRA1| -----| DSRA1| -----| INACT| 172.5 195 197 219.5 221.5 240
PC 1 CL	PM	DPMA CM	2	46	48	3.5 .2	DPMA| ----| DPMA| -----| DPMA| 0 46 48 94 96
SSBN 726 CL NOTES 7,8	EOC	ERP ERO	4 27	168 252	279	33.0 340.0	DEL| -----| ERP| -----| ERO| -----| ERP| 0 168 172 252 0 128 132 -----| INACT| 228
SSGN 726 CL	EOC	ERP	4	108	112	33.6	CONV -----| ERP| -----| INACT| 108 112 210 216
SSN 21 CL NOTES 8,9,11	EOC	INAC/IRR EDSRA DSRA	NOTE 9 8 3	 75	 83	NOTE 9 80.0 30.0	PSA| -----| EDSRA| -----| DSRA| -----| EDSRA| 0 48 56 104 107 131 139 -----| DSRA| -----| EDSRA| -----| DSRA| -----| 187 190 214 222 270 273 297 EDSRA| ----| DSRA| ----| INACT| 305 353 356 380
SSN 23 CL	EOC	 DPMA DSRA	 6 3	48	54	 60.0 30.0	PSA| -----| DSRA| -----| DPMA| -----| DSRA| 0 22 25 48 54 76 79 -----| DPMA| -----| DSRA| -----| DPMA| 102 108 130 133 156 162

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SSN 688	EOC	INAC/IRR	NOTE 9	120		NOTE 9	DMP| -----| DSRA2| -----| DSRA2|
CL		ERO	24	120	144	303.0	0 48 50 98 100
(688-718)		DSRA 2	2	48		20.0	-----| ERO| -----| DSRA2| -----| DSRA2| -----|
NOTES		IDD/PIRA	NOTE 13			NOTE 13	120 0 48 50 98 100 120
7-12							INACT|
SSN 688	EOC	INAC/IRR	NOTE 9	120		NOTE 8	PSA| -----| DSRA1| -----| DSRA1| -----| DMP|
CL		EOH	16	120	136	200.0	0 48 50 98 100 120 0
(719-773)		DMP	13	120	133	145.0	-----| DSRA2| -----| DSRA2| -----| EOH| -----|
NOTES		DSRA 1	2	48		20.0	48 50 98 100 120 0 48
8-12		DSRA 2	2	48		20.0	DSRA2| -----| DSRA2| -----| INACT|
		IDD/PIRA	NOTE 13			NOTE 13	50 98 100 120
SSN 774	EOC	INACT/IRR	NOTE 9				PSA| -----| EDSRA| -----| DSRA| -----| EDSRA|
CL							0 48 56 104 107 131 139
NOTES		EDSRA	8		83	80.0	-----| DSRA| -----| EDSRA| -----| DSRA| -----|
8-11		DSRA	3			30.0	187 190 214 222 270 273 297
							EDSRA| ----| DSRA| ----| INACT|
							305 353 356 380

FLEET CODES

FDNF	FORWARD DEPLOYED NAVAL FORCES

AVAILABILITY TYPES

CM	CONTINUOUS MAINTENANCE	IDSRA	INCREMENTAL DOCKING SELECTED RESTRICTED AVAILABILITY
COH	COMPLEX OVERHAUL	INAC	INACTIVATION AVAILABILITY
DCM	DRYDOCK CONTINUOUS MAINTENANCE	IRR	COMBINED INACTIVATION, REACTOR COMPARTMENT DISPOSAL AND HULL RECYCLING AVAILABILITY
DEMA	DOCKING EXTENDED MAINTENANCE AVAILABILITY	ISRA	INCREMENTAL SELECTED RESTRICTED AVAILABILITY
DMP	DEPOT MODERNIZATION PERIOD	MMP	MAJOR MAINTENANCE PERIOD (SSGN ONLY)
DPIA	DOCKING PLANNED INCREMENTAL AVAILABILITY	PEMA	PIERSIDE EXTENDED MAINTENANCE AVAILABILITY
DPMA	DOCKING PLANNED MAINTENANCE AVAILABILITY	PIRA	PRE-INACTIVATION RESTRICTED AVAILABILITY
DSRA	DOCKING SELECTED RESTRICTED AVAILABILITY	PIA	PLANNED INCREMENTAL AVAILABILITY
EDSRA	EXTENDED DRYDOCKING SELECTED RESTRICTED AVAILABILITY	PMA	PLANNED MAINTENANCE AVAILABILITY
EOH	ENGINEERED OVERHAUL	PSA	POST SHAKEDOWN AVAILABILITY
ERO	ENGINEERED REFUELING OVERHAUL	RCOH	REFUELING COMPLEX OVERHAUL
ERP	EXTENDED REFIT PERIOD	ROH	REGULAR OVERHAUL
ESRA	EXTENDED SELECTED RESTRICTED AVAILABILITY	SCO	SERVICE CRAFT OVERHAUL
IDD	INTERIM DRY-DOCKING	SRA	SELECTED RESTRICTED AVAILABILITY

MAINTENANCE STRATEGIES

EOC	ENGINEERED OPERATING CYCLE
PM	PLANNED MAINTENANCE
PROG	PROGRESSIVE MAINTENCE
IMP	INCREMENTAL MAINTENANCE PROGRAM

NOTES:
1. Surface ship notional dry docking intervals may be extended to 144 months provided the repairs and modifications outlined in reference (d) have been performed. Specific areas addressed include underwater hull and freeboard; sea chests; tanks and

voids; propulsion shaft outboard bearings; propulsion shaft covering; rudders, bearings, and seals; controllable pitch propeller (CPP); and cathodic protection system. Notional dry docking interval will remain at 96 months until this work is completed. Subsequent dry docking intervals will be extended to 144 months based on the assumption that any remaining work required to extend the dry docking cycle will be completed during the next scheduled docking availability.

a) Due to Government-Owned, Contractor-Operated (GOCO) arrangements, docking availabilities conducted in Mayport, Florida are split into a docking phase and topside/non-docking phase. The average extension for these split availabilities for each ship class follows:

- CG - 2 months
- DD - 1.5 months
- DDG - 1.5 months
- FFG - 1 month

Since the total availability requirement is priced at the docking rate, no additional manday requirement will be added for these extensions. Maintenance Requirement System (MRS) data for Mayport docking availabilities shows no significant deviation from other docking availability notionals.

2. USS KITTY HAWK (CV 63) is a one-of-a-kind forward-deployed carrier. For ISRA availabilities from FY 05 to INACT the maintenance requirement will decrease in a stepped function, as follows: FY 05: 90K MDs, FY 06: 90K MDs, FY 07: 90K MDs, FY08: 45K MDs.

3. USS ENTERPRISE (CVN 65) has its own specifically designed Incremental Maintenance Program (IMP). It closely follows the IMP for the CVN 68 Class, but uses different names for the availabilities; e.g., ESRA and EDSRA. These will continue until the end of its service life.

4. USS NIMITZ Class (CVN 68) CVNs have transitioned to an Incremental Maintenance Program. The RCOH will normally coincide with the fourth DPIA depending on the operational tempo and the actual duration of earlier depot level availabilities, which directly affect the rate of fuel depletion. A material condition assessment is required 4 years in advance of RCOH to further define manday requirements.

5. USS IWO JIMA (LHD 7) will be on 10-year docking cycle due to new construction installation of 10-year shaft preservation system.

6. The allocation of available ISRA CM man-days within a given year for execution is at the discretion of the Fleet Commander.

7. Nuclear ships may require adjustment in overhaul intervals based on rate of fuel depletion. Mandays to support refueling preparations must be programmed up to 3 years in advance.

8. Refer to OPNAVINST 3120.33B for SSN and SSBN operating cycles, maintenance strategies and extension requirements.

9. Notional mandays and duration of submarine INAC/IRR availabilities vary by hull and are determined by SUBMEPP for NAVSEA PMS392,and are then entered into the Fleet Modernization Program Management Information System (FMPMIS). A submarine PIRA is a hull-specific availability used to establish a final, abbreviated OPCYCLE prior to inactivation if required. An IDD is a hull specific availability used to establish an abbreviated OPCYCLE prior to overhaul. Based on the length of the abbreviated operation cycle use the following for notional mandays.

a. 6-17 months - 20,000 mandays (2 Months duration)
b. 18-23 months – 30,000 mandays (3 Months duration)
c. 24-48 months – 65,000 mandays (6 Months duration)

10. For the last SSN 688 Class DSRA executed prior to inactivation, reduce the notional mandays to 17,000 to reflect reducing the scope of work of these availabilities.

11. For SSN 688 Class DSRAs, add 3,000 mandays to the notional mandays for dock services when the availability is performed at a shipyard. For submarine DSRAs at PHNSY&IMF modify the notional manday value, as applicable, per the following.

a. Add 1,000 mandays for Warm Water Effects.
b. Add 2,400 mandays for FMAV work (CSMP).
c. Add 800 mandays for Mod-25 submarines (SSN 766,771-773).
d. Add 800 mandays for Alteration Installation Team (AIT) support when AIT support requires extending the availability beyond the notional duration.
e. Add 96 mandays per day for services when AIT support requires extending the availability beyond the notional duration.

12. Notional mandays for SSN 688 Class DMPs will be determined by applying the following learning curve to the availability notional:

SSN 688 DMP Execution Efficiency					
Availability in Series	First	Second	Third	Fourth	Fifth
Learning Curve Factor	1.285	1.17	1.103	1.055	1.017

a. Notional man-days for SSN 688 Class EOHs will be determined from the following table:

SSN 688 EOH Execution Efficiency					
Availability in Series	First	Second	Third	Fourth	Fifth
Notional EOH Mandays (K)	230	218	209	203	200

13. The CG-47 Class DMP’s, ESRA’s & EDSRA’s are scheduled to support CG conversion availabilities.

14. FFG-7 Class maintenance cycle is adjusted to 24 months due to operational requirements.

15. Commander Fleet Forces Command (FFC) in POM-06 committed to a maintenance requirement mitigation reducing Public Sector portion of CVN availabilities by 2.7% by returning fire watch duties to ship’s force personnel.

POM-06 SHIP CLASS MAINTENANCE REQUIRMENT MANHOURS

SPONSOR	SHIP CLASS	Man-hours/ year	STATUS
SUB	AFDL 1	1800	Active
SUB	AFDM 3	0	Active
SUR	AGF 11	16000	Active
SUR	AGF 3	10000	Active
SUB	AGSS 555	4000	Active
SUB	ARDM 1	0	Active
SUB	ARDM 4	7000	Active
SUB	ARDM 5	7000	Active
SUR	ARS 50	15000	Active
SUB	AS 39	74000	Active
SUR	CG 47	23000	Active
AIR	CV 63	15000	Active
AIR	CV 67	35000	Active
AIR	CVN 65	23000	Active
AIR	CVN 68	12000	Active
SUR	DD 963	0	Active
SUR	DDG 51	13000	Active
SUR	DDX 1	13000	Active
SUR	FFG 7	21000	NRF
SUR	FFG 7	21000	Active
SUR	LCC 19	15000	Active
SUR	LCS 1	6500	Active
SUR	LHA 1	23000	Active
SUR	LHD 1	15000	Active
SUR	LPD 17	20000	Active
SUR	LPD 4	14000	Active
SUR	LSD 36	0	Active
SUR	LSD 41	20000	Active
SUR	LSD 49	14000	Active
SUR	MCM 1	6000	Active
SUR	MCM 1	8000	NRF
SUR	MHC 51	4000	Active
SUR	MHC 51	8000	NRF
SUB	NR 1	16000	Active
SUR	PC 1	5000	Active
SUB	SSBN 726	139000	Active
SUB	SSGN 726	139000	Active
SUB	SSN 21	35000	Active
SUB	SSN 688	35000	Active
SUB	SSN 774	35000	Active

LIST OF MAINTENANCE TERMS AND DEFINITIONS

Depot Modernization Period (DMP). An availability scheduled primarily for the installation of major high priority warfare improvement alterations.

Docking Extended Maintenance Availability (DEMA). Depot availability for Moored Training Ships (MTSs) for the accomplishment of maintenance and modernization that requires docking.

Docking Planned Maintenance Availability (DPMA). A PMA expanded in scope to include maintenance and modernization that require dry-docking.

Docking Planned Incremental Availability (DPIA). A labor-intensive availability, of less than a year duration, for aircraft carriers in an Incremental Maintenance Program. Maintenance and modernization are accomplished. Aircraft carriers assigned to Incremental Maintenance Programs are maintained through PIAs and DPIAs in lieu of overhauls.

Docking Selected Restricted Availabilities (DSRA). An SRA expanded in scope to include maintenance and modernization that require dry-docking.

Drydock Continuous Maintenance (DCM). A nearly continuous availability period performed on drydocks which carry out industrial maintenance and selected modernization maintenance when the drydock is not in use.

Engineered Operating Cycle (EOC). This maintenance philosophy keeps ships in an acceptable material condition while sustaining or increasing the operational availability of the ship, and is earmarked by a structured engineered approach for ship maintenance while minimizing the time spent in depot-level availabilities. Major elements of the maintenance strategy include:

a. Periodic inspections of selected systems and equipment to identify and document necessary repair requirements and material condition trends.

b. Periodic maintenance tasks to be accomplished at specified times during the ship's life cycle.

c. Scheduled intra-cycle Intermediate Maintenance Availabilities (IMAVs), Drydocking SRAs (DSRAs), SRAs, and ROHs

to accomplish the maintenance and modernizations required to sustain or improve the material condition of the ship.

d. Extensive modernization to maintain and upgrade the ship class war fighting capability.

Engineered Periodicities. The recommended periodicity for accomplishment of a maintenance action and is based upon an engineering analysis of all relevant technical maintenance history information including material condition and performance feedback data.

Extended Docking Selected Restricted Availability (EDSRA). A DSRA expanded in scope to include maintenance and modernization that cannot be accomplished in a DSRA.

Extended Refit Period (ERP). A labor-intensive period, typically lasting 4 months during which SSBNs & SSGNs accomplish maintenance and modernization which cannot be completed during a normal refit period.

Inactivation Availability (INAC). An availability assigned to prepare a ship for inactivation or disposal. The scope of work depends on the planned disposition of the ship.

Incremental Maintenance Program (IMP). A maintenance philosophy which keeps aircraft carriers in an acceptable material condition through a series of incremental depot maintenance actions. Types of availabilities under this maintenance philosophy include PIAs and DPIAs.

Incremental Selected Restricted Availability (ISRA). An availability for continuous accomplishment of industrial maintenance and selected modernization. A nearly continuous availability period assigned to forward deployed aircraft carriers, mine warfare ships and AGF 3.

Interim Dry-Docking (IDD). A hull specific availability used to extend the operating cycle prior to the next major maintenance availability.

Maintenance Requirements System (MRS). Surface ship historic average of mandays for completed CNO availabilities, deferred maintenance & continuous maintenance. Provides basis to accurately project depot maintenance budgets for POM cycle and to assess risks of deferring maintenance.

Overhaul. A major availability normally exceeding 6-months duration for the accomplishment of maintenance and modernization. Program Managers frequently use terms such as:

a. Regular, Complex, or Engineered Overhaul availability (ROH, COH, or EOH) to describe or identify planning and execution differences among overhaul availabilities of different ship classes.

b. Refueling complex or engineered refueling overhaul availability (RFOH, RCOH or ERO) to describe or identify fundamental planning and execution differences among overhaul availabilities of different nuclear powered ship classes during which the reactor is also refueled.

Pierside Extended Maintenance Availability (PEMA). On site depot availability for Moored Training Ships (MTS) for the accomplishment of maintenance and modernization.

Pre-Inactivation Restricted Availability (PIRA). A hull specific availability assigned to establish a final, abbreviated OPCYCLE prior to inactivation.

Planned Maintenance (PM). This maintenance philosophy uses depot level maintenance through a series of short, frequent Planned Maintenance Availabilities (PMAs) in lieu of Regular Overhauls (ROHs). The goals of Planned Maintenance are to maximize ship availability, improve operational readiness, and upgrade material condition. Major elements of this maintenance strategy include:

a. Execution of availabilities in the ship's homeport. Ships are scheduled for PMAs of 2 to 4 months at intervals of 15 to 18 months which include both repairs and modernization.

b. Adherence to Condition-Based Repair in which repair and replacement is determined by the actual material condition of systems and equipment. Only those repairs necessary to sustain proper functioning of equipment are identified and authorized for accomplishment.

c. Involvement of Port Engineers in the planning, budgeting, authorizing, and execution of all maintenance actions and remain with the same ships through their cycle.

d. Preservation of repair decision approval authority in the ship's COs, Port Engineers, and Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP).

e. Use of multi-ship/multi-year contracts to ensure production contractor participation in the advance planning process as it is difficult to fully define all work in the condition based maintenance environment.

Planned Maintenance Availability (PMA). A short labor-intensive availability for ships in a Planned Maintenance Program for the accomplishment of maintenance and modernization. Ships assigned to Planned Maintenance Programs are maintained through PMAs in lieu of overhauls.

Planned Incremental Availability (PIA). A labor-intensive availability, of less than 6 months duration, for aircraft carriers in a Incremental Maintenance Program. Maintenance and modernization are accomplished. Aircraft carriers assigned to Incremental Maintenance Programs are maintained through PIAs and DPIAs in lieu of overhauls.

Post Shakedown Availability (PSA). An availability assigned to newly built, activated or converted ships upon completion of post-delivery shakedown. PSAs will be scheduled so they are completed no later than the end of the Shipbuilding and Conversion Navy (SCN) obligation work limiting date which is the date on which SCN funding and work authority terminates. Work performed shall normally include correction of defects noted during shakedown, correction of deficiencies remaining from the acceptance trials, and performance of class modifications remaining from the new construction activation or conversion period.

Progressive Maintenance (PROG). This maintenance philosophy is designed to support ships with reduced manning, limited organizational level maintenance, and operational tempos that limit availability periods. It is also designed to sustain a high level of readiness and increase the ship's availability for required operations. Ships with reduced manning are designed for major component removal and replacement. To compensate for the reduced manning and other shipboard maintenance off-ship component refurbishment is done by intermediate and depot level activities. This concept requires maintenance and logistic support systems significantly different from those required for conventionally manned surface ships. Major elements of the maintenance strategy include:

a. Engineered maintenance planning.

b. Progressive overhaul.

c. Upgrading of maintenance tasks from ship's force to the Intermediate Maintenance Activity (IMA).

d. Modular replacement.

e. Dedicated material support and increased stock-level procurement.

Ship Class Maintenance Requirement (SCMR). Is a class maintenance requirement with calculations based on ship age and individual ship maintenance actions input into each ship’s 3M system. Inputs are trended based on multiple year data to derive future estimated requirements in maintenance manhours of labor per ship class. Output aids in determining required manning at Regional Maintenance (I-Level) Facilities.

Selected Restricted Availability (SRA). A short labor-intensive industrial period assigned to ships in Progressive or Engineered Operating Cycle Maintenance Programs for the accomplishment of maintenance and selected modernization. Ships assigned to Progressive Maintenance Programs are maintained through SRAs in lieu of overhauls.

Service Craft Overhaul (SCO). A major industrial availability for the accomplishment of maintenance and modernization on service craft.